IN THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A protective apparatus for protecting an electric machine against current overload~~, having~~, comprising:

~~——~~a current value provision device for ~~the purpose of~~ providing a present current value with which the electric machine is operated~~,~~;

~~——~~a prediction device ~~(2, 4)~~ for ~~the purpose of~~ determining the thermal motor model *TMM* as a function of the present current value, a predetermined current limit value, and a time, ~~which is~~ predetermined by the classification of the electric machine, and for ~~the purpose of~~ predicting an absolute or relative time value for a trigger reserve, in the case of which the thermal motor model reaches a value of one~~,~~; and

~~——~~a utilization device ~~(5)~~ for ~~the purpose of~~ utilizing the time value for the trigger reserve for generating a control signal.

2. (Currently Amended) The protective apparatus as claimed in claim 1, ~~in which~~wherein, when providing a current I_{pres} from the point in time $t = 0$ on, *TMM* is given by:

$$TMM = \left[1 - e^{\frac{1}{\tau}}\right] \cdot \frac{I_{pres}}{I_{limit}}$$, where I_{limit} is the current limit value, and t is the predetermined time.

3. (Currently Amended) The protective apparatus as claimed in claim 1, ~~it being possible for~~wherein the thermal motor model ~~to be calculated~~is recursively calculatable in the prediction device ~~(2, 4)~~.

4. (Currently Amended) protective apparatus as claimed in claim 1 ~~or 3~~, ~~it being possible for~~wherein the time value ~~to be calculated~~is dynamically calculatable using the present value for the thermal motor model.

5. (Currently Amended) The protective apparatus as claimed in ~~one of the preceding claims, it being possible~~claim 1, wherein ~~for~~ at least one of the prediction device ~~(2, 4)~~ and~~/or~~ the utilization device ~~(5) to be~~is ~~parameterized~~parameterizable.

6. (Currently Amended) The protective apparatus as claimed in ~~one of the preceding claims, it being possible for~~claim 1, wherein at least one of a disconnection signal ~~or~~ and a warning signal ~~to be generated~~are generatable as a control signal in the utilization device ~~(5)~~.

7. (Currently Amended) A method for protecting an electric machine against current overload, the method comprising ~~having the following steps~~:

- provisioning ~~of~~ a present current value with which the electric machine is operated~~,~~;
- ~~determination of~~determining ~~the~~ a thermal motor model ~~on the basis of~~based on the present current value, a predetermined current limit value and a time predetermined by the classification of the electric machine~~,~~; ~~and~~

- predict~~ion of~~ing an absolute or relative time value for a temporal trigger reserve as a function of the thermal motor model in which the thermal motor model reaches a value of one~~,~~;
- generat~~ion of~~ing a control signal using the time value~~,~~; and
- driving ~~of~~ the electric machine using the control signal.

8. (Currently Amended) The method as claimed in claim 7, ~~in which~~wherein, when providing the present current value I_{pres} from the point in time $t = 0$ on, the thermal motor model is given by:

$TMM = \left[1 - e^{\frac{1}{\tau}}\right] \cdot \frac{I_{pres}}{I_{limit}}$, where I_{limit} is the current limit value and t is the predetermined time.

9. (Currently Amended) The method as claimed in claim 7, ~~in which~~wherein the thermal motor model is calculated recursively.

10. (Currently Amended) The method as claimed in claim 7~~ or 9~~, ~~in which~~wherein the time value is calculated dynamically using the present thermal motor model.

11. (Currently Amended) The method as claimed in ~~one of claims~~claim 7~~ to 10~~, ~~in which~~wherein the process for generating a control signal is parameterized individually.

12. (Currently Amended) The method as claimed in ~~one of claims 7 to 11~~claim 7, wherein at least one of a disconnection

signal ~~or~~ and warning signal ~~being~~ is generated as a control signal.

13. (New) The protective apparatus as claimed in claim 3, wherein the time value is dynamically calculatable using the present value for the thermal motor model.

14. (New) The protective apparatus as claimed in claim 3, wherein at least one of the prediction device and the utilization device is parameterizable.

15. (New) The protective apparatus as claimed in claim 3, wherein at least one of a disconnection signal and a warning signal are generatale as a control signal in the utilization device.

16. (New) The method as claimed in claim 9, wherein the time value is calculated dynamically using the present thermal motor model.

17. (New) The method as claimed in claim 8, wherein the process for generating a control signal is parameterized individually.

18. (New) The method as claimed in claim 8, wherein at least one of a disconnection signal and warning signal is generated as a control signal.

19. (New) The method as claimed in claim 9, wherein the process for generating a control signal is parameterized individually.

20. (New) The method as claimed in claim 9, wherein at least one of a disconnection signal and warning signal is generated as a control signal.